

SUPPORT FOR AMENDED CLAIMS

Claims 1–4 are currently amended; support for these amendments are found in the claims as previously presented. Claim 5 is as originally presented and Claim 6 is as previously presented. Claims 7–10 are newly added; support for these claims can be found in the specification, listed as follows:

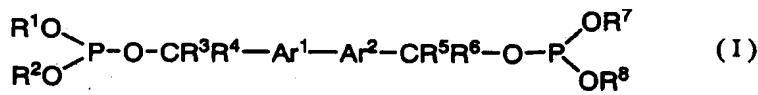
- Claim 7: page 12, lines 16–28;
- Claims 8–10: Examples 1–5, beginning on page 20.

New matter has not been added.

Claims 1–10 are pending.

REMARKS/ARGUMENTS

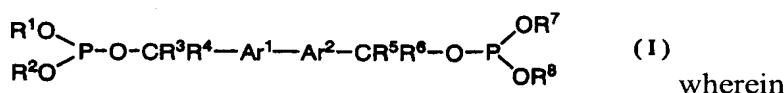
Present Claims 1 and 10 relate to bisphosphites represented by formula (I):



wherein Ar¹ and Ar² are

each independently a substituted or an unsubstituted arylene group; R¹, R², R⁷ and R⁸ are each independently a substituted or an unsubstituted alkyl group, a substituted or an unsubstituted aryl group or a substituted or an unsubstituted heterocyclic group; and R³, R⁴, R⁵ and R⁶ are each independently a hydrogen atom or an alkyl group, with the proviso that the carbon atom bearing R³ and R⁴ and the carbon atom bearing R⁵ and R⁶ are bound to their respective arylene groups at the ortho position to the Ar¹-Ar² bond.

Present Claims 2 and 9 relate to compositions containing bisphosphites and Group 8 to 10 metal compounds, said bisphosphites represented by formula (I):

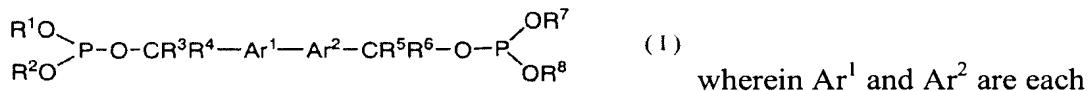


wherein Ar¹ and Ar² are each

independently a substituted or an unsubstituted arylene group; R¹, R², R⁷ and R⁸ are each

independently a substituted or an unsubstituted alkyl group, a substituted or an unsubstituted aryl group or a substituted or an unsubstituted heterocyclic group; and R³, R⁴, R⁵ and R⁶ are each independently a hydrogen atom or an alkyl group, with the proviso that the carbon atom bearing R³ and R⁴ and the carbon atom bearing R⁵ and R⁶ are bound to their respective arylene groups at the ortho position to the Ar¹-Ar² bond.

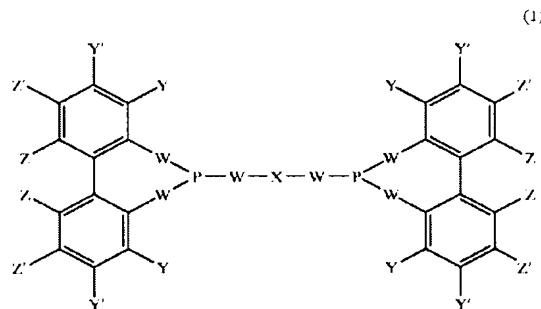
Present Claims 3-8 relate to processes for producing aldehydes, comprising reacting olefins with carbon monoxide and hydrogen in the presence of bisphosphites and Group 8 to 10 metal compounds, said bisphosphites represented by formula (I):



independently a substituted or unsubstituted arylene group; R¹, R², R⁷ and R⁸ are each independently a substituted or an unsubstituted alkyl group, a substituted or an unsubstituted aryl group or a substituted or an unsubstituted heterocyclic group; and R³, R⁴, R⁵ and R⁶ are each independently a hydrogen atom or an alkyl group, with the proviso that the carbon atom bearing R³ and R⁴ and the carbon atom bearing R⁵ and R⁶ are bound to their respective arylene groups at the ortho position to the Ar¹-Ar² bond.

The inventors have found that the presently claimed bisphophite compounds are particularly effective when used with rhodium compounds for the production of achiral aldehydes. The cited reference contains no disclosure or suggestion of the presently claimed bisphosphite compounds. Accordingly, this reference cannot affect the patentability of these claims.

The rejection of Claims 1 and 2 under 35 U.S.C. § 102(e) in view of Whiteker et al. (U.S. 2004/0199023 A1) is respectfully traversed. The cited references discloses a bisphophite represented by formula (1), reproduced below, where the ligand contains biaryl moieties.



The structure explicitly shows that two aryl groups are bonded together. However, bisphophite ligands with biaryl groups are not claimed in present Claims 1 and 2. Because of this distinction, Whiteker et al. does not anticipate the bisphophite of the present claims.

Accordingly, the rejection should be withdrawn.

The rejection of Claims 3–6 under 35 U.S.C. § 103(a) as obvious over the above cited reference is respectfully traversed. The distinction between the bisphosphites of the present invention and those of the cited reference is clear in view of the amendments to the claims. Moreover, the advantage of the cited reference is that optically active products can be synthesized from optically inactive reagents. Paragraph [0014] reads, in part:

“An advantage of this invention is that optically active products can be synthesized from optically inactive reactants...”

Conversely, the advantages of using the claimed bisphosphites of the present invention in the hydroformylation of olefins are high product selectivity and high catalytic activity under relatively mild conditions. Such hyrdoformylation is not particularly driven by introduction of asymmetry. The paragraph beginning on page 3, line 1 of the present specification states:

"Accordingly, it is an object of the present invention to provide a novel bisphosphite for use in hydroformylation of olefins that not only achieves high selectivity, but can also maintain its high catalytic activity under relatively mild conditions as well as to provide a process for producing aldehydes using the bisphosphite(s)."

The distinction between the advantages of the cited reference and the present invention is clear. Therefore, one skilled in the art would not be taught by the cited reference to use catalyst to produce aldehydes for getting the advantages of the present invention.

Accordingly, the rejection should be withdrawn.

The rejection of Claims 1–6 under 35 U.S.C. § 112, second paragraph, is obviated by appropriate amendment to these claims. The amendments have deleted the limitation providing for a bisphosphite that can have bonded aryl moieties on the ligand itself.

Accordingly, the rejection should be withdrawn.

Applicants submit that the application is in condition for allowance, and early notification of such action is earnestly solicited.

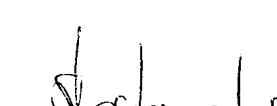
Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)


Richard L. Chinn
Registration No.: 34,305

Stefan U. Koschmieder, Ph.D.
Registration No: 50,238